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New Results from the NOvA experiment & the joint-fit with T2K

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NOvA is a long-baseline neutrino oscillation experiment consisting of two functionally identical tracking calorimeter detectors placed in a beam of muon (anti-)neutrinos. The near detector is located at Fermilab, sampling neutrinos from the 1 MW-capable NuMI beam. The neutrinos then travel 810 km to Ash River, Minnesota, where the much larger far detector measures them again after they have oscillated.

These measurements of muon-neutrino disappearance and electron-neutrino appearance, and their antineutrino counterparts at the far detector, are used to measure neutrino mass differences and the parameters of the PMNS mixing matrix and provide a constraint on neutrino mass ordering and charge-parity violating phase δ_{CP} .

In this talk, I will briefly summarize the recently released joint-fit analysis from NOvA and T2K. I will then detail the latest 3-flavor oscillation analysis results from 10 years of data taking on NOvA. These results include a nearly doubled neutrino-beam mode dataset, a new electron neutrino sample, and improvements to analysis techniques and systematics.

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